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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/500,244

06/25/2004

Shizuo Iwasaki

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SUGHRUE MION, PLLC

2100 PENNSYLVANIA AVENUE, N.W.

SUITE 800

WASHINGTON, DC 20037

EXAMINER

MAKI, STEVEN D

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/500,244	Applicant(s) IWASAKI, SHIZUO	
	Examiner Steven D. Maki	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1) A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6-6-07 has been entered.

2) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3) Claims 1-3 and 6-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 1, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the new matter) is the subject matter of the center side region and shoulder side region being defined by "a block section along the side is divided into a shoulder side region and a center side region by a center line of the block section". The original disclosure teaches using a center of the block 6 in the widthwise direction instead of a center of a "block section" to define the center and shoulder regions. See

page 6 lines 3-6 of the specification. In claim 1, the above first paragraph 112 rejection may be overcome by making the following changes: (1) on line 8 of claim 1 change "a block section along the side is divided" to --the block is divided in the width direction-- and (2) on line 9 of claim 1 change "a center line of the block section" to --a center line of the block--

4) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5) Claims 1-3 and 6-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, "a block section along the side is divided into a shoulder side region and a center side region by a center line of the block section" is ambiguous. In particular, the boundaries of the block section relative to the perimeter of the block are unclear. In other words, it is unclear if the "block section" corresponds to the entire upper surface of the block or only a part of the upper surface of the block. In claim 1, the above 112 second paragraph rejection may be overcome by making the above noted changes for overcoming the 112 first paragraph rejection.

In claim 9, the subject matter of "a base of the center side region has a width of 5 to 40% of the block width" is ambiguous. It is unclear if (1) claim 9 is further defining the side (as apparently intended) or (2) claim 9 requires the center side region to have a width of 5-40% so that the shoulder side region has a corresponding width of 60-95% (as apparently literally required). In claim 9, it is suggested to change the wherein

clause to --wherein an end of the sipe in the center side region has a shallow cut depth and a base of the shallow cut depth end of the sipe has a width of 5 to 40% of the block width--.

6) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Japan 220

8) **Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japan 220 (JP 2000-255220).**

Japan 220 discloses a pneumatic radial tire having a tread comprising a pair of shoulder block rows, a pair of central block rows, three circumferential grooves, and transverse grooves. See figure 1. The central blocks have one end opening sipes 7. The one end opening sipe 7 in the central block opens to the outer circumferential groove instead of the circumferential groove at the equatorial plane of the tire. The sipe 7 has a length L_s of 50-100% block width L_a . In the invention example, the length L_s is 75% of the block width L_a (22.5 mm / 30 mm times 100%). Japan 220's sipe having a

length L_s of 75% of block width L_a inherently has a sectional area S_2 within the claimed range of 1.4 to 2.0. Since the sipe 7 in the central block opens only to the outer circumferential groove, the rigidity of the center side region of the central block is higher than that in the shoulder side region of the central block.

The tire of claim 1 is anticipated by Japan 220. In any event, it would have been obvious to one of ordinary skill in the art to form the sipe 7 in the central blocks such that with the block being divided in the width direction into a shoulder side region and center side region by a center line of the block, the sipe sectional area S_2 at shoulder side region is 1.4 to 2.0 times the sipe sectional area S_1 at center side region in view of Japan 220's teaching to locate a one end opening sipe 7 only at the shoulder side region of the central block such that sipe length L_s is 50-100% (e.g. 75%) of block width L_a to improve driving and braking performance and prevent damage such as chip and crack. With respect to "a cut depth of the sipe changes in the width direction", figure 2 of Japan 220 illustrates a rounded bottom corner for the blind end of the sipe and thereby satisfies "a cut depth of the sipe changes in the width direction". This rounded corner in figure 2 of Japan 220 causes "a cut depth of the sipe to change in the width direction".

As to claim 2, Japan 220's tread has four block rows.

As to claim 3, see figure 2 of Japan 220.

As to claim 6, sipe 7 is a one end opening sipe.

Europe 397

9) **Claims 1, 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Europe 397 (EP 333,397).**

Europe 397 discloses a radial tire having the tread comprising blocks, circumferential grooves and lateral grooves. The shoulder blocks have both end opening sipes with varying depth. See figures 6, 9 and 10. The varying depth (difference in depth between portions S1 and S2) of the sipes causes the block to have a "shoulder side region" having a rigidity less than the rigidity of the "center side region".

As to claim 1, it would have been obvious to one of ordinary skill in the art to locate the sipes in the blocks such that with the block being divided in the width direction into a shoulder side region and center side region by a center line of the block, the sipe sectional area S2 at shoulder side region is 1.4 to 2.0 times the sipe sectional area S1 at center side region since Europe 397 teaches providing the blocks with sipes such that the center region side is more shallow than the shoulder region side to appropriately reduce rigidity of the blocks to thereby reduce wear in the shoulder regions and improve traction and braking forces. With respect to "a cut depth of the sipe changes in the width direction", Europe 397 teaches the sipe being shallower at the center side region of the shoulder block. See figure 9 or figure 10. Hence, Europe is not silent as to what the sectional area of the sipe should be along the length of the sipe. In particular, Europe 397 teaches changing the sectional area of the sipe from the center side end of the sipe to the shoulder side end of the sipe. See figures 9 or 10. The change in sectional sipe area due to change in sipe cut depth in figure 9 is gradual.

The change in sectional sipe area due to change in sipe cut depth in figure 10 is relatively abrupt. Europe 397 is not silent as to why cut depth changes in figures 9 and 10. More specifically, Europe 397 explains that the cut depth changes to control ground pressure distribution in the widthwise direction of the tread to thereby decrease slip amount, reduce uneven wear and improve traction and braking forces. See page 4 lines 9-12 and page 3 lines 11-16.

As to claim 3, Europe 397 teaches the sipe being shallower at the center side region of the shoulder block.

As to claim 8, Europe 397's shoulder sipes are both end opening sipes.

10) **Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Europe 397 (EP 333,397) as applied above and in view of Japan 526 (JP 2000-185526).**

As to claim 6, it would have been obvious to one of ordinary skill in the art to locate the sipes in Europe 397's blocks such that (a) S2/S1 is 1.4 to 2.0 (claim 1), (b) "a cut depth of the sipe changes in the width direction" (claim 1) and (c) the sipe is an one end opening sipe (claim 6) since (1) Europe 397 teaches providing the blocks with sipes such that the center region side is more shallow than the shoulder region side to appropriately reduce rigidity of the blocks to thereby reduce wear in the shoulder regions and improve traction and braking forces and (2) Japan 526, also directed to a tire having sipes in shoulder blocks, suggests forming sipes with a one end opening configuration (figure 1) instead of a both end opening configuration (figure 4) in shoulder blocks which should deform moderately but not have excessively low rigidity to increase

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braking performance and reduce heel and toe wear (paragraphs 11 and 13 of machine translation).

Allowable Subject Matter

11) Claims 7 and 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Remarks

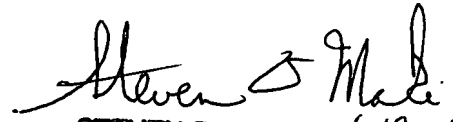
12) Applicant's arguments with respect to claims 1-3 and 6-9 have been considered but are moot in view of the new ground(s) of rejection.

13) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
June 19, 2007


STEVEN D. MAKI
PRIMARY EXAMINER 6-19-07